

21st Century Learning Environments

A **21st century learning environment** depends on a number of aligned and interdependent elements to support 21st century teaching and learning.

Among these elements are the following:

- facilities and design
- technology infrastructure
- scheduling
- school culture
- leadership
- professional learning communities
- community involvement

There is ample evidence that the quality of the learning environment greatly affects the quality of the learning that occurs there.¹ The Partnership for 21st Century Skills encourages schools to establish 21st century learning environments -- environments that support the learning practices, collaborative arrangements, technological capacities, and physical spaces that enable teaching and learning to flourish. An OECD education director, Andreas Schleicher, has described countries with high-achieving educational systems as places where schools "...take initiative on the basis of data and best practice, where teachers and schools collaborate in a knowledge-rich environment, where schools do not look up but out."²

We know that the ambience of the school building affects learning. Georgetown University researchers have found that just improving a school's physical environment can increase test scores by up to 11%.³ The OECD recommends that schools around the world to "accommodate both the known and identifiable needs of today, and the uncertain demands of the future. They should provide an environment that will support and enhance the learning process, encourage innovation and be a tool for learning... They need to be conceived ...as a resource to support lifelong education and recreation for all."⁴

Such schools should feature *flexible spaces* – including up-to-date libraries and media/technology centers – where students and members of the larger community can participate in a variety of learning activities as individuals

¹ Bransford, et al. (2000).

² Andreas Schleicher Head of OECD Education Indicators and Analysis Division, speaking at the America's Choice Annual Conference, January 19, 2007. As cited in National Center on Education and the Economy (2007). *Tough Choices for Tough Times*.

³ Commission on Architecture and the Built Environment. (2002). *The Value of Good Design*. As cited in Pink, D. (2005).

⁴ Organisation for Economic Co-operation and Development (2001). *Designs for Learning*. Paris: OECD.

and in groups. To accommodate the demands of 21st century learning, schools should also “provide ubiquitous access to technology, promote interaction and a sense of community, enable formal and informal learning, and convey as sense of energy.”⁵ This flexibility of design extends to time as well. Twenty-first century schools may find it necessary to restructure the day into more malleable units of time than the typical rigid 50-minute class period in order to create extended learning blocks for project-based work or interdisciplinary themes. Educators may also find the need to extend the school day or the school calendar to increase learning time and promote more durable linkages between students, families, and the community.

Of course, a critical component of a 21st century learning environment is a robust and equitable *technology infrastructure*. The National Research Council has found abundant evidence of the value of technology in promoting learning.⁶ Such technology provides access to real world data, tools, and resources that foster the sort of real world learning that boosts student engagement and achievement. In 21st century schools, physical and digital infrastructures should be designed so that real and virtual spaces combine to create supportive hybrid learning environments. According to Thomas Skill and Brian Young, such “integrated learning environments” should be constructed so as to encourage student-teacher connections, student cooperation, active learning, effective feedback, and high expectations, while respecting the diversity of talents and ways of learning among students.⁷

Yet while facilities and infrastructure matter, the school’s *culture* may matter even more. Culture can seem a rather amorphous concept. Tony Wagner and others at the Change Leadership Group at Harvard define school culture as “the shared values, beliefs, assumptions, expectation, and behaviors related to students and learning, teachers and teaching, instructional leadership and the quality of relationships within and beyond the school.”⁸ That’s quite a mouthful, but the point is that culture is the “invisible but powerful meanings and mindsets”⁹ that shape the learning environment as much or more than do the four walls of the classroom. It’s common sense that positive relationships within an organization enable it to carry out its

⁵ Cornell, P. (2002). “The Impact of Change in Teaching and Learning on Furniture and the Environment.” In Chism, N. & Bickford, D. (2002). *The Importance of Physical Space in Creating Supportive Learning Environments*. *New Directions for Teaching and Learning*. No. 92, Winter 2002. San Francisco: Jossey Bass.

⁶ Bransford, et al. (2000).

⁷ Skill, T. & Young, B. (2002). “Embracing the Hybrid Model: Working at the Intersections of Virtual and Physical Spaces.” In Chism, N. & Bickford, D. (2002).

⁸ Wagner, et al. (2006).

⁹ Wagner, et al. (2006).



mission more effectively. Research, too, supports the idea that a healthy school climate promotes learning – both for students and adults.

What kind of culture is most effective? The answer is ‘many.’ There is no single culture that will fit all schools – each school must craft its own vision for using its unique teaching talents and instructional resources to meet the unique learning needs of its community. Let’s look, though, at those aspects of culture found frequently in 21st century schools.

Leading educators such as Deborah Meier and Ronald Ferguson have demonstrated that a *climate of respect and trust* among children and adults is essential to an effective school.¹⁰ And Eleanor Drago-Severson has found that a *positive school climate* – characterized by shared leadership, collegial relationships, and support for constructive change and diversity – encourages the professional growth of educators, which in turn enhances student achievement.¹¹

Research from noted researchers, such as Linda Darling-Hammond¹² and Eleanor Drago-Severson,¹³ and leading associations, such as the National Staff Development Council, have found strong evidence of the contribution of *professional learning communities* (PLCs) to the continuous improvement of schools. Such communities enable educators to develop and refine their knowledge and skills in collaborative and supportive ways that mirror the 21st century learning environments of their students, and help overcome the isolation that has characterized teaching for too long.

We know, too, from recent research, that effective leadership is essential to effective schools. “Almost every single study of school effectiveness has shown both primary and secondary leadership to be a key factor.”¹⁴ Again, leadership can take many forms, but there are some clear and consistent messages from the research. Successful school leaders are those that focus on student learning, provide support for professional communities, are “outwards looking” (in seeking ideas and connections outside the school),

¹⁰ Meier, D. (2002). *In Schools We Trust: Creating Communities of Learning in an Era of Testing and Standardization*. Boston: Beacon Press. Ferguson, R.F. (2002). “Addressing Racial Disparities in High-Achieving Suburban Schools.” *NCREL Policy Issues*. No. 13. December 2002. Also, Meier, D. (2002). *In Schools We Trust*. Boston: Beacon Press.

¹¹ Drago-Severson, E. (2004).

¹² Darling-Hammond, L., & Bransford, J., Eds. (2005). *Preparing Teachers for a Changing World: What Teachers Should Learn and Be Able to Do*. San Francisco: Jossey-Bass.

¹³ Drago-Severson, E. (2004). *Helping Teachers Learn: Principal Leadership for Adult Growth and Development*. Thousand Oaks, CA: Corwin Press.

¹⁴ Sammons (1999), as cited in Fullan, M. (2001). *The New Meaning of Educational Change*, 3rd ed. New York: Teachers College Press.



and “demonstrate caring for the well-being and whole development of students and staff.”¹⁵

Last, but not least, 21st century learning environments must extend beyond their physical space to both give to, and get support from, their families and local communities. As a leading educational authority, Michael Fullan, notes, “the research is very clear about the benefits, indeed, the necessity of parental involvement.”¹⁶ There is strong research evidence, as well, that community involvement in schools yields important benefits. A recent research summary conducted by the George Lucas Foundation cites the following as among the many educational advantages of greater community and parental participation:

- Children do better when their parents are involved in their education
- After-school learning opportunities promote student achievement
- Community youth development programs spur teen’s academic performance
- Schools that integrate community services reduce risk and promote resilience in children.¹⁷

Conclusion

Most schools today still reflect their Industrial Age origins with rigid schedules, inflexible facilities, and fixed boundaries between grades, disciplines, and classrooms. As the research cited above shows, though, the 21st century requires something different – an integrated and integrative learning environment, one that is open to the outside world and is flexible in its physical space as well as its use of time. Such an environment overcomes the isolation of 20th century classrooms by fostering a healthy culture of mutual respect and support among students, educators, families, and neighborhoods. When a school integrates the elements described above into vibrant and vital 21st century learning environment, then all the members of its community can learn and grow into the future together.

¹⁵ Fullan (2001).

¹⁶ Fullan (2001).

¹⁷ Furger, R. “Making Connection between Home and School,” in The George Lucas Educational Foundation (2002). *Edutopia: Success Stories for Learning in the Digital Age*. San Francisco: Jossey-Bass.